

KUTUZOVA, T.

Cosmonaut No. 2. Vest. Vozd. Pl. no.9:111-118 S '61.
(MIRA 14:11)
(Space flight training)
(Titov, German Stepanovich, 1935-)

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

KU SI JAVA, V. B.

Characteristics of the anatomic structure of the fruits of vegetables
of the nightshade family. Short, trial, app. 1 min., number 012. VIB
no. 52115-121-164. (MIRA 1803)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

KUTUZOVA, V.V.; ROZANOV, N.M.

Jurassic stratigraphy of the Fergana Valley. Trudy VNIGMI no.30:
131-143 '61. (MIRA 14:9)
(Fergana--Geology, Stratigraphic)

DIKENSHTEYN, G.Kh.; KUTUZOVA, V.V.; FASCHYKOV, K.K.; BABAYEV, A.G.;
POL'STER, L.A.; YUFEREV, R.F.; SHISHOVA, A.I.; BABAEV,
R.A.; MAKAROVA, L.N.; MURADOV, K.; IYANOVSKAYA, I.A.;
SEMOV, V.N.; SIROTINA, Ye.A.; TURKINA, I.S.; FEL'DMAN,
S.L.; KHON, A.V.; KUNITSKAYA, T.N.; GOLENKOVA, N.P.;
ROSHINA, V.M.; FARTUKOV, M.M.; SHCHUTSKAYA, Ye.K.;
ALTAYEVA, N.V.; BYKADOROV, V.A.; KOTOVA, M.S.; SHIRKOV,
L.N.; IBRAGIMOV, M.S.; KRAVCHENKO, N.F.; MARKOVA, L.P.;
ROZZYEVA, T.R.; UZAKOV, O.; SLAVIN, P.S.; NIKITINA, Ye.A.;
MILOGRADOVA, M.V.; BARTASHEVICH, O.V.; STAROBINETS, I.S.;
KARIMOV, A.K.

[Splicing of the wires of overhead power transmission lines]
Soedinenie provodov vozdushnykh linii elektroperedachi. Mo-
skva, Energiia, 1964. 69 p. (Biblioteka elektromontera,
no.132) (MIRA 17:9)

KUTUZOVA, Ye.A., glavnnyy inzhener.

Using and economizing raw material. Leg.prom. 7 no.9:18 Ag '47.
(MLRA 6:11)

1. Kosinskaya trikotazhnaya fabrika.

(Knit goods)

NY/144-58-9-13/18

AUTHOR: Kutvinov, V. G., Candidate of Technical Sciences,
Senior Lecturer

TITLE: Calculation of a.c. Servo-Drives (Raschet sledyashchego
privoda na peremennom toke)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika,
1958, Nr 9, pp 86-104 (USSR)

ABSTRACT: The transfer function of elements operating with a.c.
can be determined only as a transfer function of the
entire a.c. operated channel as a whole (Ref 1).
This is due primarily to the non-linear processes of
modulation and demodulation which have to be considered
as a single non-linear process. This leads to cumbersome
mathematical relations which cannot be applied for
practical engineering calculations. In this paper the
author investigates the transfer function of a real
a.c. circuit with a two-phase motor as a phase detector
and a practical method of determining the transfer
function is proposed. The author arrives at the
following conclusions: the transfer function of an
a.c. channel with a two-phase motor as a demodulator
can be expressed by eq (16) p 92, whereby the function

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Calculation of a.c. Servo-Drives

COV/144-58-9-13/18

$A(S)/D(S)$ can be determined in the simplest manner graphically from the frequency characteristics of the circuit. In presence of a negative back-coupling from the motor speed, stable regulation is possible however small the critical slip of the motor, provided the conditions expressed by Eq (29), p 97 are fulfilled; this means that it is not necessary to choose a motor with a decreasing characteristic. Since the frequency characteristics of a.c. circuits have been thoroughly studied, the graphical method of determining the functions can be applied also in the case of a synthesis of the system of automatic controls by means of methods proposed by E. G. Uderman (Ref 4).

There are 7 figures, 1 table and 4 Soviet references.

ASSOCIATION: Voyennaya inzhenernaya akademiya imeni Dzerzhinskogo
(Military Engineering Academy imeni Dzerzhinsky)

SUBMITTED: June 9, 1958

Card 2/2

SOV/144-59-7-8/1?

AUTHOR: Kutvinov, V.G., Cand. Techn. Sci., Senior Lecturer

TITLE: The Transformation Function of an Asynchronous Generator

PERIODICAL: Izvestiya vysishikh uchebnykh zavedeniy,
Elektromekhanika, 1959, Nr 7, pp 48-53 (USSR)

ABSTRACT: The use of an asynchronous motor in the 'generator' mode is a common device in automatic control circuits. The characteristics of a 2-phase induction motor can be varied within wide limits depending on the kind of supply circuit and, in particular, the resistance of the rotor. The fundamental set of equations for such a motor are Eq (1) where the suffix γ refers to the control circuit and B to the exciting circuit. Fig 1 is the equivalent control circuit for a generator; the equivalent exciting circuit is similar. If, in the steady state, harmonic currents and voltages are assumed, Kirchhoff's Equations may be written as Eq (6) including the source impedances as in Fig 2. The e.m.f.'s E_1 and E_2 may be written in terms of frequency ratio and impedances as Eq (7b). This result enables the control circuit to be considered linear. The slope and linearity of the dependence are determined by the expression following Eq (7b). If $r = \infty$ E_1 is a linear function but r/Z does not usually exceed 0.7 and

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SOV/144-59-7-8/17

The Transformation Function of an Asynchronous Generator

the relation is therefore non-linear. This means that as the rotation speed changes so does the phase and effective amplitude of E_y . The phase change can be avoided if the meshes ~~at~~ⁱⁿ g and ~~in~~ⁱⁿ z are resonated with capacitances. This increases the dynamic resistance of the circuits, however, and reduces the conversion "slope" of the generator. A more practical way is to arrange that the multiplier at the top of p 51 is purely real. This requires the simultaneous satisfaction of Eqs (8), (9) and (10). In certain cases if the rotor resistance is rather small a capacitance may have to be included in the exciting circuit. Figs 3 and 4 show how a valve and transistor respectively are connected to the control winding. Eq (14) is the relation between the current in the control circuit and the speed of rotation. If the shaft speed suffers a harmonic variation about its mean position the frequency characteristic of the machine is determined by the passage of the side-frequencies through the rotor and stator windings. If the leakage inductance of the windings is neglected in comparison with other frequency-sensitive elements in the amplifier then the

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SOV/144-59-7-8/17

The Transformation Function of an Asynchronous Generator

response of the control circuit is the circle diagram of Fig 5 and the control voltage is Eq (16). If the exciting winding is fed from a source of direct current it is possible to use the generator as an acceleration pick-off with the transfer function Eq (18). The appendix derives the values of the circuit elements of an asynchronous generator.

Card 3/3 There are 7 figures and 2 references, of which 1 is Soviet and 1 English.

ASSOCIATION: Voyennaya inzhensernaya akademiya imeni Dzerzhinskogo
(Military Engineering Academy imeni Dzerzhinskii)

SUBMITTED: January 17, 1959

KUTYAKOV, A.

Radio message. IUn.tekh. 3 no.4:60-61 Ap '59.

(MIRA 12:4)

(Artificial satellites)
(Radio)

AL'PERT, Ya.L.; BELYANSKIY, V.B.; KUTYAKOV, A.F.

Coherent radio-receiving apparatus for recording the difference of
Doppler's frequency replacement in radio waves from an artificial earth
satellite. Geomag. i aer. 3 no.1:157-170 Ja-P '63. (MIKA 16:4)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln
AN SSSR.
(Ionosphere) (Artificial satellites in meteorology)

KUTYAKOV, A.F., inzh. [deceased]; POCHATKOV, S.Ye., inzh.; LEVIN, M.I., inzh.

Device for measuring the width of the radiation band of radio
stations. Vest. sviazi 25 no.3:7-11 Mr '65.

(MIRA 18:5)

KUTYAKOV, Ivan Semenovich; PODOSEYEV, Ye.A., polkovnik, red.; SOLOMONIK, R.L.,
tekhn.red.

Vasilii Ivanovich Chapaev. Moskva, Voen. izd-vo M-va oborony SSSR,
1958. 86 p.
(Chapaev, Vasilii Ivanovich, 1887-1919) (MIRA 11:5)

KUTYAKOV, M. G. (Tomsk)

Indications and contraindications for diaphragmo-crurotomy in
pulmonary emphysema. Klin. med. no.11:81-85 '61.
(MIRA 14:12)

1. Iz gospital'noy khirurgicheskoy kliniki Tomskogo meditsinskogo
instituta (zav. - deyatvitel'nyy chlen AMN SSSR prof. A. G. Savinykh)

(EMPHYSEMA, PULMONARY) (DIAPHRAGM-SURGERY)

DETYAREV, I.P.; KUTYAKOV, M.G., kard.med.mauk

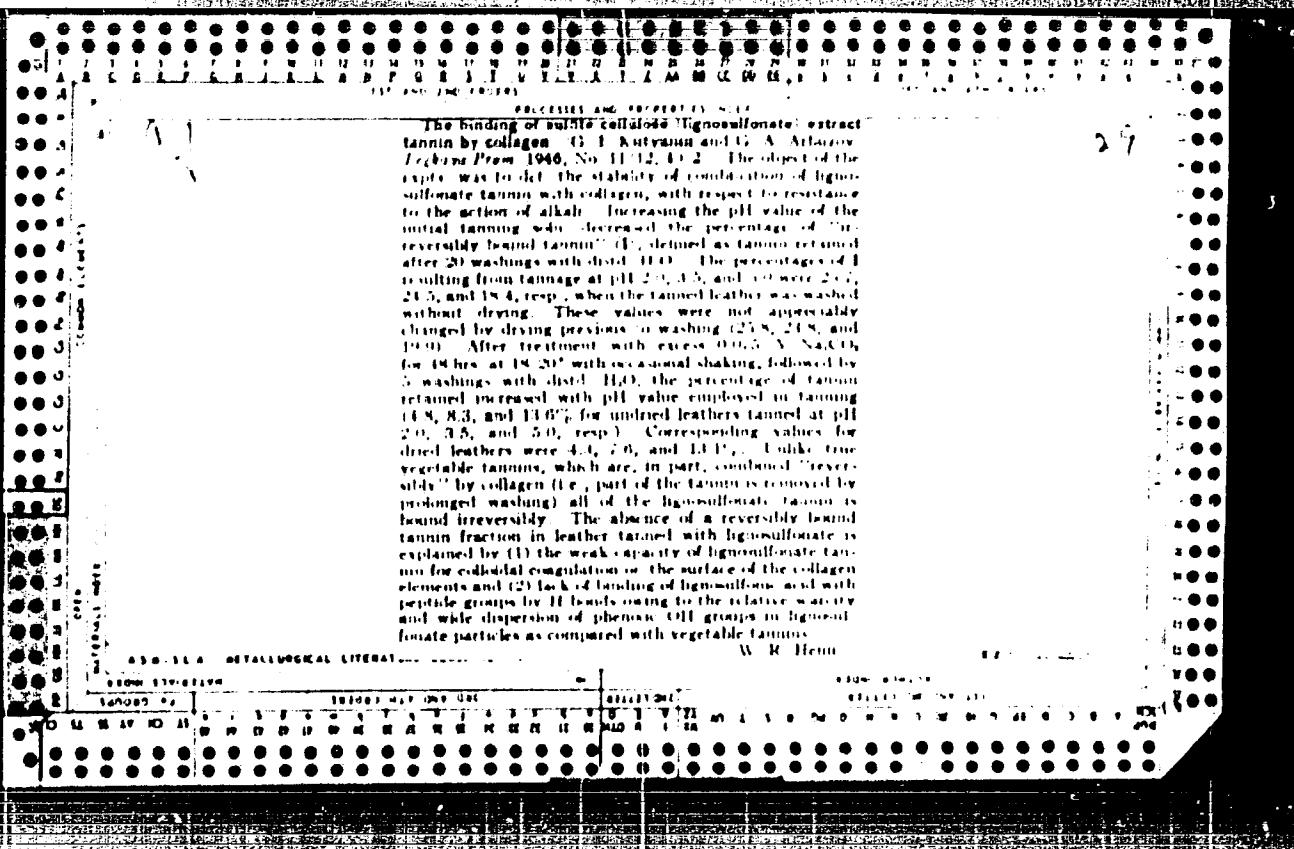
Invalidity caused by trauma in a rural district of Altai
Territory. Sov.med. 28 no.12:116-118 p 16.

(Med. Publ.)
1. Novosibirskiy institut travmatologii i ortopedii, Altai Krai
meditsinskiy institut, Barnaul.

VOKOVA, O.B.; KAZANSKIY, V.I.; VOLKOV, Yu.M.; Prinimali uchastiyu KUTYAKOVA,
G.N.; PETROVA, N.I.

Obtaining surfactants from low-boiling fractions of light paraffin.
Nefteper. i neftekhim. no.7:22-26 '64. (MIRA 17:11)

1. Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy promy-
shlennosti i Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy insti-
tut sinteticheskikh znirozameniteley.



KUTTAZIN, G. I. Cand. Tech. Sci.

Dissertation: "Characteristics of Binding the Tanning Abilities of Cellulose Extract and Syntans with Collagen." Moscow Technological Inst. of Light Industry inst. L. M. Kaganovich, 26 Jun 47.

SC: Vechernaya Moskva, Jun, 1947 (Project #17836)

24

29

The character of the bonding of tanning materials from sulfite cellulose extracts and of syntans with collagen, e.g., 1. Butylamin leather from B. No. 1, 22 J. 1948; cf. C. I. 41, 200d. Natural quinone extract is compared with a "resorcin" type of syntan as regards distribution of tannin after tanning hide powders at various pH values. Similarly, various syntans derived from naphthalene are compared with sulfite waste liquor. — M. H. K. S. T. —

ASA-SEA - METALLURGICAL LITERATURE CLASSIFICATION

31
37

The problem of electrovalent interaction of tannin with collagen. G. I. Kutyum. *Zhurnal fiz. ch.*, No. 6, 12, 1948. The work of G. A. Arbusov is cited and compared with the U.K. literature of 1942-1948. Author's abstract. M.S.

APPENDIX METALLURGICAL LITERATURE CLASSIFICATION

27
Cry

The role of combined water-soluble tannin in hides
G. T. Kutscher, J. L. H. van der Veen, J. C. M. de Bruyn
1988. The interaction of the phenolic OH groups of
tannin with the peptide linkage in the hide protein during
vegetable tanning produces combined water-soluble
tannin. The ratio of such combined tannin to dry
tannin

from 21.8 g/100 g hide for quebracho extract being 1.0
to 1.6 for eucalyptus extract. - March 1988

ASB-1A METALLURGICAL LITERATURE CLASSIFICATION

БАТЫРШЕКИНОВ, Г. А.

19112

Он изъятое из-под охраны виновником личного плана-стк. 1912, №.. 2.
С. 20-26

СК: 1912.13 №. 24

REMARKS: S. 1.

AKAD. K voprosu o neiskerti podochivnoy sozni. I. V. V. Tropin, L. A.,
N. 10, C. 25-26-Publogr: A. Razy.

JO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

CA

29

Central Tech Sc.

Relation between elasticity and temperature of boiling
shrinkage temperature of leather. G. I. Kutzman
Dobbs, Abad. Nauk SSSR 65, 289-302 (1960). The
samples were tanned with a variety of agents and the elas-
ticities of the resulting leather were measured by
recovery from a standard compression. The crit. temps. for
contraction in H₂O after the tannages were: hide, 65.7°;
bark ext., 68.77%; phenolic syntan, 80%; HClO, 86.9%;
chrome, 102.8°. J. P. Drury

Central Sci. Res. Inst. Tanning & Shoe Industry

64
Factors which shape the volume of the derma. G. I. Kutyann and A. N. Mikhalkov. *Tekhn. Prom.* 10, No. 12, 34 (1950). Fiber bundles of derma were not strengthened by treatment with potassium sulfite, 4 N in NH_4SO_4 , or "strong" pickle, which was 0.15 N in NH_4SO_4 , and 4 N in NaCl; there was even a decrease of strength. Such action is opposite to that of tanning materials. Strength of derma was changed only to a small extent by treating with water (original derma), HIO_4 , iodine (prior treatment with acetone), glycerol, and paraffin (prior treatment with alk. and acetone). The dehydrating action of alk. and acetone was shown by a small increase in strength and decrease in elongation. As regards such properties, derma impregnated with alk. or acetone is between an dry and water-saturated derma. An increase in elasticity in the pro-

dominant change in the derma immediately after treatment with reagents which reversibly shape its vol. This is conditioned by the dehydration (salting out) of the structural elements of collagen. The final shaping effect is dependent upon a decrease in surface tension of liquid in capillaries of derma and a simultaneous dehydration of the derma.
B. Z. Kamch

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Effect of tanning on shaping of volume and mechanical proportion of derma. G. I. Kulyanin and A. N. Mikhalev. *Legkaya Prom.* 11, 40 (1951) — Tanned derma showed much greater resistance against deformation under compression than did untanned. Deformation of hydrated derma, before and after tanning, was clearly related to the degree of vol. shaping; the higher the resistance of the wet

derma against deformation under compression, the less it shrinks upon drying. Both resistance and shaping are in the following order: untanned derma < formaldehyde-tanned leather < chrome-tanned leather < phenol syntan-tanned leather < oak-tanned leather. The harder the derma becomes during treatment, the less compressive force is required to produce destruction. The most important factors which govern the vol. shaping of the derma are those which change the rigidity of its substance; factors which change the surface tension of the liquid in the capillaries of the derma have a much smaller influence. B. Z. Kamch

ca

29

Effect of water-soluble substances upon the physico-mechanical characteristics of leather. G. I. Kutyanning, *Lezhayu Prom.* 11, No. 5, 42-4(1951). -In vegetable-tanned leather, with increasing intensity of washing, there was a decrease of total amt. of tannins and, along with it, deformation under compression increased and yield of dry leather decreased. There was a direct relationship between resistance to compression and tannin content; however, an excess of unfixed tannins increases only the hardness of

the leather and not the intermolecular reaction of the structural elements of the collagen. Relative changes in deformation under compression and increase in shrink temp. after removal of the H₂O-sol. substances were insignificant. Apparent vol. of the skin and its thickness in the wet state were somewhat increased after tanning. Removal of the H₂O-sol. substances had practically no effect on the vol., thickness, and area of the wet leather but after drying, these showed a decrease.

B. Z. Kamich

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Effect of tanning on the mechanical properties of leather

Effect of tanning. The strength of leather is increased by tanning because tanning causes formation of cross linkages between the protein thaline without reducing the ability of the chains to be oriented by stress, while this ability is lowered by too many cross linkages. Raw hide shows a max. of strength at a medium moisture content (26 parts of water, 100 parts dry hide) because H₂O weakens the bond between the collagen chains but facilitates their orientation. The strength of leather increases with H₂O content because H₂O does not weaken the cross linkages produced by tanning.

J. J. Hargrave

APPROVED FOR RELEASE: 03/13/2001

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CA

29

"Boiling" (thermal shrinkage) of dry collagen. L. I. Kutyannin, Dubudy, Abud, Vaid, S. S. K. 82, 105-8 (1952). The initial shrink temp. of dermal collagen in leather can be regarded as an index of thermal stability of hydrated leather or skin, which depends at least in part on cross-linkages introduced in the tanning process. Dry collagen, either tanned or untanned, is capable of such shrinkage on heating. Hydrated untanned collagen shrinks at about 10° while completely dehydrated specimens shrink at about 210° or higher. Leather specimens kept under a slight load (5 g.) were heated by means of a Wood's metal bath, and the dimensional change was measured. The results, given graphically, show that a contraction to 82.0% of initial length occurs (terminal readings). The untanned or salt-tanned hydrated specimens shrink precipitously at 70-80°, while chrome-tanned hydrated specimens shrink similarly at about 120°. The dehydrated forms (tanned or untanned) shrink rapidly by 6.8% in the 120-240° interval and show a very steep shrinkage at about 210-40°. At higher temps. a slight length increase occurs, owing to plastic flow under load. Hence, tanning as such does not affect the thermal stability of dry collagen and merely produces cross-links that affect hydrothermal stability. Very likely relatively few links of this type are formed per mol. unit. The water-dependent linkages between mol. fibers are probably H bonds or electrovalent links between chemically active portions of the mole. The shrinkage temp. of collagen is similar to the softening temp. of other high polymers, while the effects of hydration on the properties of collagen resemble the effects of plasticizers on other high polymers.
G. M. Kosolapoff

Kutyanin, G. I.

Thermal endurance of dry collagen. G. I. Kutyanin.
Colloid J. U.S.S.R. 15, 39-47(1953)(Engl. translation).
See C.A. 47, 61484. H. L. H.

KITYAN¹, Georgiy Isaakovich

KITYAN¹, Georgiy Isaakovich - Academic degree of Doctor of Technical Sciences, based on his defense, 23 November 1954, in the Council of the Moscow Technological Inst of Light Industry imeni Kaganovich, of his dissertation entitled: "Study of Physico-Mechanical Properties of Skin in Connection with Changes in Its Internal Structure." for the Academic Degree of Doctor of Science.

SO: Bulletin' Ministerstva Vysshego Obrazovaniya SSSR, List No. 1, February 1976
Decisions of the Higher Certification Commission Concerning Academic Degrees
and Tittles.

JPM/IV 554

Kutyanin, G.I.

Relationship between volume yield of leather and effectiveness of linkage between trinuga and collagen. G. I. Kutyanin. *Lektsii Ravn. 14*, No. 2, 45 (1961). The stronger the trinuga-collagen link the smaller the degree of skin shrinkage. The capacity of trinuga to form skin warpage increases in the same order as the capacity to increase skin vol.
B. Z. Kamikis

KUTYANIN, G.I., kandidat tekhnicheskikh nauk.

Leather-forming capacity of tanning materials. Leg.pros. 14
no.10:26-28 O '54.
(Tanning) (MLRA 7:11)

KUTYANIN, G.I.

About the book of A.N.Mikhailov "Chemistry of tanning substances
and of tanning processes." Reviewed by G.I.Kutyanin. Zell.zhur.
17 no.6:473-474 N-D '55. (MIRA 9:4)
(Tanning)(Mikhailov, Aleksei Nikolaevich)

KUT'YANIN, Georgiy Isaakovich, doktor tekhnicheskikh nauk; CHERNOV, N.V.,
professor, doktor tekhnicheskikh nauk, retsenzent; ANEUBOV, S.L.,
redaktor; EL'KINA, N.M., tekhnicheskiy redaktor

[Studies in the physical and mechanical properties of leather]
Issledovanie fiziko-mekhanicheskikh svoistv koshi. Moskva, Gos.
nauchno-tekhnik. izd-vo Ministerstva tekstil'noi promyshl. SSSR,
1956. 194 p.
(Leather) (MLRA 9:?)

KUTYANIN, G.I., doktor tekhnicheskikh nauk.

Principal factors involved in the wear resistance of leather soles.
Leg.prom.15 [i.e.16] no.3:22-25 Mr '56. (MLRA 9:7)
(Shoe industry) (Leather)

KUTYANIN, G.I.

KISELEV, Vasiliy Stepanovich; SHCHEGLOV, Lev Mikhaylovich; ARKHANGEL'SKIY, N.A., prof., red.; KALLIGA, G.P., dotsent, ratsenzent; YEOORKIN, N.I., prof., ratsenzent; DAVANKOV, A.V., dotsent, ratsenzent; NOVODEREZHIN, P.I., dotsent, ratsenzent; KUTYANIN, G.I., prof., ratsenzent; BULGAKOV, N.V., prof., ratsenzent; BORISOVA, G.A., red.; MEDRISH, D.M., tekhn.red.

[Articles made from silicates, plastics and chemical industry products] Tovary silikatnye, iz plasticheskikh mass i khimiko-moskatal'nye. Pod red. N.A. Arkhangel'skogo. Moskva, Gos. izd-vo torg. lit-ry, 1958. 320 p. (MIRA 12:2)

1. Kafedra tovarovedeniya promtovarov Vsesoyuznogo zaochnogo instituta sovetskoy torgovli (for Bulgakov).
(Glassware) (Plastics) (Pottery)

28(5)

SOV/32-25-9-26/53

AUTHOR: Kutyanin, G. I.

TITLE: Electric Method of Investigating Varnish Coats

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, pp 1094-1097 (USSR)

ABSTRACT: The method of measurement of the electric resistance (ER) of samples of these varnish coats (VC) has several advantages over the other methods of investigation at present employed in the drying and aging kinetics of varnish coats. To make these measurements, an electrically conductive pigment, generally carbon black (CB), is added to the (VC). This method was employed here to test the heat aging of the (VC) on the basis of various film formers (F), the influence of various pigments and fillers being investigated simultaneously. The suspension of the (CB) with the other components in the (F) was diluted with the solvent to the desired consistency and applied to an electrically insulating base (ceramics, glass, etc) (viscosity should amount to 25-28 sec in the VZ-4 cup to produce coats of 40-50 μ). After drying the (VC) are detached, cut, and tested. (ER) was measured with ordinary direct-current bridges of the MVU-49 and MVL-47 type. After the (VC) had been subjected to heat aging they were again tested. The diagrams of (VC) obtained on the basis of a silicon-organic resin

Card 1/2

Electric Method of Investigating Varnish Coats SOV/32-25-9-26/53
F-9 showed that also after drying a sharp decline in (ER) results, i.e. further contraction and condensation of the (VC) takes place. Measurements of (VC) on the basis of the silicon-organic varnish K-47 showed that after a sharp decline of (ER) after longish heat aging (over 280 hours at 200-220°) (ER) increases again, which is due to the formation of cracks. To investigate the initial process of drying (or hardening) fast-drying varnishes were tested (bakelite varnish, varnish from K-212-01 resin, and silicon-organic varnishes (SV) with lead-manganese siccative Nr 63). The results showed that with thermal treatment (ER) becomes five times less within a few minutes, while the (ER) of (SV) rose again after 15 hours. There are 4 figures and 2 Soviet references.

Card 2/2

KUTYANIN, G.I., prof.

Discussing the resistance to wear of sole leathers. Kozh.-obuv.
form. 2 no. 4:23-24 Ap '60. (MIRA 13:9)
(Leather)

KARIMOV, K.G., inzh.; KUTYANIN, G.I., prof.

Effect of hydrothermal treatments on the wear resistance of sole leather. Report No.2: Effect of the duration of the treatment.
Izv.vys.uuchqz.zav.; tekhn.leg.prom. no.3:73-76 '61. (MIRA 14:7)

1. Moskovskiy Ordona Trudovogo Krasnogo Znameni institut narodnogo khozyaystva imeni Plekhanova. Rekomendovana kafedroy tovarovedeniya promyshlennykh tovarov.

(Leather—Testing)

KARIMOV, K.G.; KUTYANIN, G.I., prof.

Effect of tannin tanning time on the wear resistance of sole
leather. Kozh.-obuv.prom. 3 no.7:25-26 Jl '61. (MIRA 14:9)
(Tanning)

KUTYANIN, G.I., prof.; KARIMOV, K.G.

Methods of testing the resistance to abrasion of leather by means
of an apparatus with the attachment developed by the Ukrainian
Scientific Research Institute of the Leather Industry. Kozh.-
obuv.prom. 3 no.9:23 S '61. (MIRA 14:11)
(Leather--Testing)

KUTYANIN, G.I., doktor tekhn.nauk, prof.; KARIMOV, K.G., inzh.

Relation between moisture and resistance to wear of sole leather.
Izv.vys.ucheb.zav.; tekhn.leg.prom. no.6:38-43 '61. (MIRA 14:12)

l. Moskovskiy ordena Trudovogo Krasnogo Znameni institut narodnogo
khozynystva imeni Plekhanova. Rekomendovana kafedroy tovarovedeniya
promyshlennnykh tovarov.
(Leather--Testing)

KUTYANIN, G.I.; KARIMOV, K.G.

Resistance of leather to wear, as related to its resistance to heat.
Dokl.AN SSSR 138 no.3:625-627 My '61. (MIRA 14:5)

1. Moskovskiy institut narodnogo khozyaystva im. G.V.Plekhanova.
Predstavлено академиком P.A.Rebinderom.
(Leather)

KOZLOVA, Zoya Vladimirovna; KUTYANIN, G.I., prof., red.; MAKSIMOVICH,
A.G., red.; MAMONTOVA, N.N., tekhn. red.

[Plastics] Plasticheskie massy. Pod red. G.I.Kutianina. Mo-
skva, Gos. izd-vo torg. lit-ry, 1962. 77 p. (MIRA 15:3)
(Plastics)

KUTYANIN, G. T.

PHASE I BOOK EXPLOITATION

SOV/6276

Bulgakov, Nikolay Vasil'yevich, and Georgiy Isaakovich Kutyannin

Tovarovedeniye promyshlennyykh tovarov. Vvedeniye, plasticheskiye massy, khimiko-moskateel'nyye tovary (Commercial Products. Introduction, Plastics, Commercial Chemicals) Moscow, Gostorgizdat, 1962. 368 p. 18,000 copies printed.

Reviewers: M. Ye. Sergeyev, Professor, and V. T. Mesyachenko, Docent; Eds.: A. G. Maksimovich and Ts. B. Sinel'nikova; Tech. Ed.: D. M. Medrish.

PURPOSE: This book is intended as a textbook for students of economics and commerce at schools of higher education.

COVERAGE: This textbook deals with the classification, properties, packaging, transportation, and storage of industrial products marketed by the chemical industry. There are 30 references: 28 Soviet, 2 German.

Card 1/51

KUTYANIN, G.I., dozent, tehn. nauk, prof.; ISAYMOV, E.G., Inzh.

Hydrothermal effects on the wear resistance of sole leather,
Izv. vysch. ucheb. zav.; tekhnich., ser. no. 2:73-77 '62. (ISSN. 15:5)

Uchen. tsentr po voprosam Khimicheskogo Znacheniya Institut
voprosov i issledovanii po tekhnologii obuvy i obuvnoy priemery
tevarevcheniya promyshlennosti obuvi. (Leather Testing,
(Leather Testing,

KUTYANIN, G.I., prof.; KARIMOV, K.G.

Effect of the scalding temperature on the wear resistance of sole
leather. Kozh.-obuv.prom. 4 no.1:23-25 Ja '62. (MIRA 15:3)
(Leather tanning)

KARIMOV, K.G., inzh.; KUTYANIN, G.I., doktor tekhn. nauk, prof.

Effect of paraffin and spindle oil on the wear resistance of
sole leather. Izv. vys. ucheb. zav., tekhn. leg. prom. no.3:
49-55 '63. (MIRA 16:7)

1. Moskovskiy Ordona Trudovogo Krasnogo Znameni institut
narodnogo khozyaystva imeni Plekhanova. Rekomendovana kafedroy
tevarovedeniya promyshlennyykh tovarov.
(Leather - Testing)

KUTYANIN, G.I.

Investigation of the aging of paint and varnish coatings
by measuring their electric resistance. Lakokras.mat.1 ikh
prim. no.1:52-54 '63. (MIRA 16:2)

(Paint materials--Testing)
(Electric resistance)

URUDZHEV, R.S., aspirant; KUTYANIN, G.I., prof.

Chrome leather shrinkage during heating. Kozh.-obuv. prom. 5
(MIRA 17:1)
no.11:32-34 N '63.

GURFILIN', I.Ye.[deceased]; BOYKOV, D.Ya.; IVANOV, I.I.;
ALEKSEIEV, N.S.; KUTYANIN, G.I., prof., doktor nauk.
nauk, spets. red.; NIKOLAYEVA, N.G., red.

[technical guide to glass, ceramics, furniture, and building materials] Tovarovedenie silikatnykh, reball'nykh i
stroitel'nykh tovarov. Moscow, Nauk. Mir, 1984. 176 p.
(T. A. 772)

KUTYANIN, G.I.

Relation between wear resistance and heat resistance of leather as
a natural polymeric material. Dokl. A. SSSR 156 no16:1432-1435
Je '64. (MIRA 17:8)

1. Zaochnyy institut sovetskoy torrovli. Preistavleno akademikom
P.A. Rebinderom.

GROTYENKO, Valerij, aspirant; SAFRAJ, Boris Anatolijevich, student, 1 year, 11th grade;
doktor tehn. nauk, prof.

Investigating the friction properties of sole rubber. For:
obuv. prom. 6 no. 319-13 S 102. (USSR 1977)

KUTYANIN, G.I.; URUDZHEV, R.S.

Effect of moisture on the heat resistance of chrome tanned leather.
Kozh.-obuv.prom. 6 no.11:19-22 N '64.

(MIRA 18:4)

KUTYANIN, G.I., URUDZHEV, R.S.

Method for studying the heat resistance of polymer films. Zav.
lab. 30 no.9;1130-1131 '64. (MUPA 18-3)

1. Institut narodnogo khozyaystva imeni Flekhanova.

L 27795-65 RWT(m)/EPF(c)/T/BNP(j)/EPR Pe-l/Pr-l/Pe-l RFL WW/RM

ACCESSION NR: AP5004316

S/0191/65/000/002/0043/0043

AUTHOR: Slani, I.I.; Kutyannin, G.I.

TITLE: The relative low-temperature properties of plastic films

SOURCE: Plasticheskiye massy, no. 2, 1985, 43

TOPIC TAGS: plastic film, polymer film, frost resistance, film strength, polymer orientation, plasticizer content

ABSTRACT: The mechanical stability of plastic films was measured at -20 to -60°C to relate their low temperature service properties to the type of polymer, direction of orientation and amount and type of plasticizer. The specimens were tested according to GOST 8974-59 by cooling to the selected temperature in 10 mins., bending in the test chamber to 180° angles, and evaluating stability from the presence or absence of cracks developed under a 1 kg load. High-pressure polyethylene, polyamido PK-4 (nylon film), polyethylene terephthalate and polypropylene were not affected by -60°C temperatures, low-pressure polyethylene was damaged at -60°C, and cellophane and conventional polyvinyl chloride film containing 45% dibutyl phthalate failed at -42°C. Polyvinyl chloride films exhibited higher stability when tested in the direction of orientation than in a crosswise

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L 27795-65

O

ACCESSION NR: AP5004316

direction, and stability increased with the amount of plasticizer. Polyvinyl chloride films plasticized with a mixture of dibutyl phthalate and phthalic esters of C₂-C₉ alkanols were more stable than films plasticized with dibutyl phthalate alone.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 003

OTHER: 000

2/2
Card

L 63785-65 ENT(m)/ENP(j)/T RM

ACCESSION NR: AP5019632

UR/0183/65/000/004/0059/0061

677.494.004.12

AUTHOR: Urudzhev, R. S.^{44,55}; Palladov, S. S.^{44,55}; Kutyanin, G. I.^{44,55}

26
23

TITLE: Determination of the thermal stability of synthetic fibers

B

SOURCE: Khimicheakiye volokna, no. 4, 1965, 59-61

TOPIC TAGS: synthetic fiber, material deformation, thermal stability, polyamide/capron polyamide

ABSTRACT: A simple and convenient method of thermomechanical analysis is proposed which makes it possible to determine the temperature limits of the beginning and end of the deformation (shrinkage) of synthetic (polyamide) fibers and the magnitude of this deformation as a function of temperature (from 75 to 300° and higher). The thermal stability of several synthetic fibers was studied; the temperature limits of the transition from the vitreous to the highly elastic state, the flow (melting) points, and the shrinkage values were determined. The dependence of the shrinkage of capron on its degree of stretching was established. It was shown that the shrinkage on heating increases with the stretching of the fiber. However, this dependence

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L 63785-65

ACCESSION NR: AP5019632

exists only up to a certain limit above which an increase in the degree of stretching has no appreciable effect on the shrinkage of the polymeric material (fiber).
Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut narodnogo khozyaystva im. G. V. Plekhanova (Institute of the National Economy) *4/15*

SUBMITTED: 15Oct64 ENCL: 00 SUB CODE: MT, TD
NO REF SOV: 002 OTHER: 001

llc
Card 2/2

L 54971-65 ENT(a)/EPP(c)/EPR/EWP(f)/T PC-4/PE-4/PS-4 MM/PM
ACCESSION NR: AP5012107 UR/0191/65/000/005/0044/0045
678-416.01:536.495

28
8

AUTHOR: Kutyanin, G. I.; Urudzhev, R. S.

TITLE: Study of the thermal stability of polymer films 15

SOURCE: Plasticheskiye massy, no. 5, 1965, 44-45

TOPIC TAGS: polymer film, polymer heat stability, polyethylene terephthalate, polyvinylidene chloride, polymer film shrinkage, polyvinyl chloride, polyamide, polyethylene, viscous flow temperature

ABSTRACT: The authors studied the thermal stability of films of polyethylene terephthalate and polyvinylidene chloride (15 and 30 microns thick), and found that the magnitude of the thermal deformation of the material (shrinkage) and internal stress are affected by such factors as the rate at which the temperature rises in the heat-conducting medium and the direction of cutting of the samples. Samples cut out in different directions show different values of maximum shrinkage; in longitudinal samples, the shrinkage is considerably greater than in transverse ones. The authors then studied the thermal stability of longitudinal samples of polyethylene, polyvinyl chloride, polyamide, polyethylene terephthalate, and polyvinylidene chloride films. Polyethylene terephthalate films were 15

Card 1/2

L 54971-65
ACCESSION NR: AP5012107

O

found to have the highest thermal stability. Thermal deformation of the latter films showed the presence of two temperatures at which the properties changed: 110°C corresponded to shrinkage, and 245°C to the conversion of the polymer to a state of viscous flow. The thermal deformation curves of all the films showed two such points, one of which corresponds to the start of deformation (shrinkage or elongation), and the other to the transition to the state of flow (fusion).
Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 00

NO REF Sov: 002

ENCL: 00

OTHER: 001

SUB CODE: OC, GC

Card 212

SLAVI, I.I.; KUTYAVIN, G.I.

Testing the resistance of polyvinyl chloride films to light
and heat aging. Kosho-objev. prot. 7 no. 11: 29-33 N '65
(KTPA 19:1)

L 11610-66 D/T(m)/T/CAT(j) RW
ACC-NR AP6001500 (2)

SOURCE CODE: UR/0191/65/000/012/0038/0040

AUTHORS: Slani, I. I.; Kutyanin, G. I.; Aleksandrov, K. N.

4/1

ORG: none

TITLE: Study of the properties of varnished and plated polymeric films

SOURCE: Plasticheskiye masny, no. 12, 1965, 38-40

TOPIC TAGS: protective ^{4/5}coating, polymer, varnish, tensile strength, elastic modulus / PK-4 polyamide film, PETF-20 polyethylene terephthalic film

ABSTRACT: This study involved the improvement of physical and mechanical properties, and the weatherproofing of: 1) polyamide films of uniaxial elongation PK-4; 2) polyvinyl films with a complex plasticizer; 3) polyethyleneterephthalic films PETF-20.^{1/2} Protective varnish^{1/2} or metallic coating was employed. Two-component polyurethane lake, consisting of polyisocyanate and polyhydroxy compounds, was used as varnish^{1/2} coating; aluminum applied by vacuum spraying was tested as metallic protective coating. Rigidity, tensile strength, elongation at breaking point, and elasticity modulus of treated and untreated films (before and after aging) are compared. It is concluded that rigidity and tensile strength of treated films before and after aging are considerably improved. Elastic properties of the treated films are not affected. Orig. art. has: 3 figures and 1 table.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 004
Card 1/1 // UDC: 678.01:027.5

2-

AMINOV, N.V.; KUTZMIN, G.I., doktor tekhn. nauk

Effective methods for estimating the degree of filling wood pores. Der. prom. 14 no. 1287-8 D '65. (ИА 10:12)

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

SHANI, I.I.; KUTYANIN, G.I.; ALEKSANDROW, E.N.

Studying the properties of lacquered and metallized polymer
films. Plast. massy no. 12:38-40 '65 (MIFI 14-2)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

SECRET//NOFORN//COMINT//REL TO USA, FVEY, UK, AUS
165.

1. Summary: Interrogation of [redacted] (for Mironov).

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

ANDREYIVA, N.V., KUTYANIN, G.I.

Characteristics of pore fillers used in the furniture industry,
Per. prom. 14 no.8(29-31) Ag '65. (MIRA 18-1C)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

KUTYANIN, P., dotsent, kandidat tekhnicheskikh nauk.

Method of calculating the travelling speed in pushing vessels.
Mor. i rech.flot 14 no.12:7-11 D '54. (MLRA 8:1)
(Towing)

KUTYANIN, P.

KOVALEV, A.; KUTYANIN, P.

Raise the quality level of operations in river transportation. Rech.
transp. 16 no.2:9-13 F '57.
(MLRA 10:3)
(Inland water transportation)

KUTYANIN, P.I., docent, kand.tekhn.nauk.

Calculations for the acceleration and slowing down of vessel train
movements. Rech.transp. 16 no.8:9-12 Ag '57. (MIRA 10:11)
(Inland navigation)

KUTYANIN, P.I., kand.tekhn.nauk

Principles of calculating the numerical composition of prospective
merchant ship crews. Trudy TSNIIMF no.29:50-61 '60.
(MIRA 15:11)
(Merchant marine—Manning of vessels)

KUTYANIN, P.I., kand.tekhn.nauk

Effect of operational and economic factors on the labor
productivity of ship crews. Trudy TSNIIMF no.43:49-63 '62.
(MIRA 16:2)
(Merchant marine—Labor productivity)

KUTYANIN, P., kand. tekhn. nauk, starshiy nauchnyy sotrudnik

In favor of a seven-hour work schedule. Mor. flot 23 no.1:19
Ja '63. (MIRA 16:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut morskogo
flota. (Merchant seamen) (Hours of labor)

GURIN, L.Ye., kand. ekonom. nauk; KILYAVIN, P.I., kand. tekhn. nauk;
REZ, R.S., kand. yurid. nauk

Increasing labor productivity in the merchant marine in conditions
of a shorter workday. Trudy TSNIIMF no.56:2-21 '64.

(CIA 17:11)

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

Hoisting machinery.

New Developments in ship-hoisting. Znan. silla
92 no. 5, 1952.

Monthly List of Russian Acquisitions, Library of Congress, December 1962. UNCLASSIFIED.

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

KUT'YANOV, V.

An interesting book ("On a great river." G.Kublitskii. Reviewed by V.Kut'yanov). Mor. i rech.flot 1/4 no.5:3 of cover My '54.
(Volga River) (MLRA 7:?)

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

POLIVNOY, E. M.; FOTYASHOV, V. I.

Magnetic

Changes in the magnetic properties of sheet steel in whole sheets or in separate layers. Izv. AN SSSR Ser. fiz 16 No. 6, 1952

Monthly List of Russian Accessions, Library of Congress, June 1953, Unal.

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

POLIVANOV, Konstantin Mikhaylovich, doktor tekhn. nauk, prof.; KUTYASHOV,
Vasiliy Artem'yevich, assistent.

Surface effect in anisotropic sheets. Izv. vys. ucheb. zav; elektro-
mekh. 1 no.3;3-11 '58. (MIRA 11:6)

1. Zaveduyushchiy kafedroy teoreticheskikh osnov elektrotekhniki
Moskovskogo energeticheskogo instituta (for Polivanov). 2. Kafedra
teoreticheskikh osnov elektrotekhniki Moskovskogo energeticheskogo
instituta (for Kutyashov).

(Sheet steel--Magnetic properties)
(Sheet steel--Electric properties)

KUTYASHOV, V.A.

Determining the magnetic properties of sheet steel in whole sheets
or separate plates. Izv. vys. ucheb. zav.; elektromekh. 1 no.4: 3-12
'58. (MIRA 11:8)

(Sheet steel--Magnetic properties)

KUTYASHOV, V. A., Candidate Tech Sci (diss) -- "Determination of the magnetic properties of electrical-engineering steel in whole sheets and in individual pieces of any shape". Moscow, 1959. 10 pp (Min Higher Educ USSR, Moscow Order of Lenin Power Engineering Inst), 150 copies (KL, No 26, 1959, 125)

Kharchenko, R.R.
KHARCHENKO, R.R., kand. tekhn. nauk, dots.; KUTYASHOVA, Ye.M., assist.

Method for exact measurement of alternating currents. Trudy MEI
no.13:108-116 '53. (MIRA 114)

1. Moskovskiy energeticheskiy institut im. V.M. Molotva, Kafedra
elektropriborostroyeniya.
(Electric currents, Alternating—Measurements)

112-57-7-14733D

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 7, p 138 (USSR)

AUTHOR: Kutyashova, Ye. M.

TITLE: Bolometer-Type Converters and Their Application for Higher-Frequency
Current Measurements (Bolometricheskiye preobrazovateli i ikh primeneniye
dlya izmereniy tokov pri povyshennykh chastotakh)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of
Candidate of Technical Sciences, presented to Mosk. energ. in-t (Moscow
Power-Engineering Institute), Moscow, 1956.

ASSOCIATION: Mosk. energ. in-t (Moscow Power-Engineering Institute)

Card 1/1

KUTYASHOVA, Ye.M., assistant.

Increasing the accuracy of alternating-current measurements by
comparing them with direct-current measurements. Trudy MEI no.18:151-
158 '56.
(MLRA 10:1)

1. Kafedra elektropriborostroyeniya.
(Electric measurements)

2-4-73

28193
S/194/61/000/005/005/078
D201/D303

AUTHOR: Kutyashova, Ye.M.

TITLE: Application of bolometric transducers in measuring techniques

PUBLICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1961, 11, abstract 5 A87 (Tr. Konferentsii po elektr. izmereniyam i priborostr., Kiyev, AN USSR, 1959, 305-315)

TEXT: The use of bolometers in comparing alternating, with direct currents, makes it possible to obtain larger voltages and powers as the output of the system than those obtained when using thermocouples. The theoretical and experimental analysis shows that the average resistance of the bolometer is determined by the effective value of current impedance of its form at frequencies up to 20,000 c/s. The heat given up by the heater wire may be considered for small currents (20-30% of nominal) as being a linear function of

Card 1/2

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28123

S/194/61/000/005/005/078

D201/U303

Application of bolometric...

the difference between the heater and ambient temperature, i.e. $p = k(T - T_0)$ with an accuracy of the order of tenths of one percent. The study of 10 various types of bolometer transducers has permitted the fact to be established that the best results are obtained with a sensing element made of a non-insulated nickel wire 0.05 mm diameter fixed by means of a readily melting glass onto a mica plate with a constantan heater fixed at the other side of mica. The sensing elements of two bolometers are connected into a bridge circuit, with either a.c. or d.c. supply and one heater is heated by the measured a.c. and the other by the reference d.c. current. A follow-up system has been designed, in which a detector-amplifier is connected into the measuring bridge detector branch. The heater of one of the bolometers is connected to its output, together with an ammeter for measuring the d.c. and consequently the a.c. current flowing through the heater of the other bolometer. Measurements give an accuracy of 0.1% at frequencies up to 10,000 c/s. The analysis of stability is given together with that of the consistency of equalization of the transducer characteristics. [Abstracter's note: Complete translation.]

Card 2/2

BYKOV, Mikhail Aleksandrovich; GRATSLANSKIY, Igor' Nikolayevich; KIFER,
Isaak Iosifovich; KUTYASHOVA, Yelena Mikheylovna; LEVIN, Mark
Iosifovich; PRYTKOV, Vladimir Tikhonovich; STREKALOV, Ivan
Alekseyevich; TALITSKIY, Aleksandr Vasil'yevich; KHARCHENKO,
Roman Romanovich; SHUMILOVSKIY, Nikolay Nikolayevich; KASATKIN,
A.S., red.; VORONIN, K.P., tekhn.red.

[Course on electric measurements] Kurs elektricheskikh izmerenii.
Pod red. V.T.Prytkova i A.V.Talitskogo. Moskva, Gos.energ.izd-vo.
Pt.1. 1960. 479 p. Pt.2. 1960. 430 p. (MIRA 13:10)
(Electric measurements)

GRATSIANSKIY. Igor' Nikolayevich, kand. tekhn.nauk, dots.;
KUTYASHOVA , Ye.M., kand. tekhn. nauk, red.

[Electronic measuring devices; abstract of lectures] Elektronnye izmeritel'nye pribory; konspekt lektsii. Moskva, Mosk. energ. in-t. Pt.3. 1960. 143 p. (MIRA 16:7)
(Electronic measurements)

DODIK, S.D.; KHARCHENKO, R.R., doktor tekhn. nauk, prof., retsen-zent; KUTYASHOVA, Ye.M., kand. tekhn. nauk, dots., nauchnyy red.; DIKAREVA, A.I., red.; BELYAYEVA, V.V., tekhn. red.

[Transistorized d.c. voltage and current regulators] Poluprovodnikovye stabilizatory postoiannogo napriazheniya i toka.
Moskva, Izd-vo "Sovetskoe radio," 1962. 352 p.

(MIRA 15:12)

(Voltage regulators)
(Electric power supply to apparatus)

PHOTOGRAPHY, U.S.

RA 1/49T15

USSR/Electricity
Power Plants - Design
Distributors

Feb 49

"The Horizontal 3 - 10 Kilowatt Type of Indoor
Distributor System," I. D. Kutyavin, Engr, 2 3/4 pp

"Elek Stants" No 2

Suggests a more efficient horizontal-type indoor
distributor system according to the cubic capacity
of a structure. Refers to simplicity of con-
struction, equipment installation, maintenance,
etc. Gives five illustrations of different types
of construction.

41/49T15

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2

KUTAVIN, I. N.

42(67): KUTAVIN, I. N. - Nowy typ zakrytych rozmów (telefonicznych) z kierowcami i kierowcami taboru.
Wolny i sprawny mechanici. Tradycja rozwija się dalej. [wstęp]. Przedsiębiorstwo Transportowe, T. XIII, 1948, s. 127-13. - RZ: Współczesny.

SC: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927920019-2"

KUTYAVIN, I. D.

Kutyavin, I. D. "A new system of protecting multipurpose machinery from being grounded", Izvestiya Tomskogo politekhn. in-ta im. Kirova, Vol. LXVI, Issue 1, 1948, p. 41-42

SO: U-4631 16 Sept. 1953, (Letopis 'Zhurnal 'nykh Statey, No. 24, 1949)

KUTYAVIN, I. D.

Kutyavin, I. D. "A horizontal type of covered distribution equipment for use at from 3 to 10 kilovolts", Izvestiya Tomskogo politekhn. in-ta im. Kirova, Vol. LXVI, Issue 1, 1948, p. 43-47 - Bibliog: 5 items.

SO: U-4631 16 Sept. 1953, (Letopis 'Zhurnal 'nykh Statoy, No. 24, 1949)

8(5), 9(3)

AUTHORS:

Kutyavin, I.D., Doctor of Technical Sciences, Professor, Baginskiy, L.V., Engineer, Baginskaya, A.S.,

SOV/143-59-5-2/19

TITLE:

Increasing the Selectivity of Differential Generator Protection by Connecting Additional Resistors to the Relay Circuit

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 5, pp 10-15 (USSR)

ABSTRACT:

In spite of the measures taken to increase the selectivity increase of differential protection systems, their performance figures remain still at a comparatively low level. The selectivity of differential protectors may be considerably improved by including additional resistors in the relay circuit. Studies concerning the influence of additional resistors, connected to relay circuits, on the selectivity of differential protectors were conducted at the Laboratoriya imeni A.A. Smurova (Laboratory imeni A.A. Smurov) in Leningrad in 1933/34 by V.I. Ivanov and P.I. Ryzhov.

Card 1/4

SOV/143-59-5-2/19
Increasing the Selectivity of Differential Generator Protection
by Connecting Additional Resistors to the Relay Circuit

In 1945, it was suggested to introduce linear inductive reactances of 5-10 ohms for limiting the higher harmonics of the unbalance current. Presently, additional resistances are not included in differential protection. However, investigations conducted by the Kafedra elektricheskikh stantsiy, setey i sistem Tomskogo politekhnicheskogo instituta (Chair of Power Plants, Networks and Distribution Systems of the Tomsk Polytechnic Institute) show the suitability of connecting such resistances to the relay circuits. Up to the present time, the problem of the influence of additional resistances, having different properties, on the magnitude of the transient unbalance current was not covered in literature. Consequently, there are no recommendations concerning the most advantageous magnitudes and properties of additional resistances in relay circuits. The authors present a formula of the transient current of the unbalance in a differential generator protection circuit with circulat-

Card 2/4

SOV/143-59-5-2/19

Increasing the Selectivity of Differential Generator Protection
by Connecting Additional Resistors to the Relay Circuit

ing currents. The mathematical expression for the unbalance current was obtained under the following assumptions: 1) All resistances of protector elements were considered as being independent of the current flowing thru them; 2) losses in steel were not considered; 3) the periodic component of the short circuit current was considered as being undamped; 4) the load current was equal to zero. Investigations showed that the unbalance current attains its greatest magnitude at $\alpha = 0$, and rises with an increase of the time constant T_1 and a decrease of T_2 . The time constant T_1 attains 0.15-0.2 seconds with external short circuits. The time constant T_2 is reduced to about 0.1 second during short circuits when using for the differential protection class D current transformer. For confirming the theoretical assumption, experimental curves were plotted showing the dependency of the maximum unbalance current magnitude from the function z_p . These curves are shown in Figure 3. For the

Card 3/4

SOV/143-59-5-2/19

Increasing the Selectivity of Differential Generator Protection
by Connecting Additional Resistors to the Relay Circuit

experimental investigation, laboratory current trans-formers with toroidal cores manufactured of sheet were used. The core cross section was $q = 20 \text{ cm}^2$ with an average line of force $l_{av} = 45.6 \text{ cm}$. Based on the theoretical and experimental investigations the authors conclude that additional resistances should be included in the relay circuits of differential generator protection. There are 5 graphs and 2 Soviet references. This article was presented by the Kafedra elektricheskikh stantsiy, setey i sistem (The Chair of Power Plants, Networks and Distribution Systems).

ASSOCIATION: Tomskiy ordena Trudovogo Krasnogo znameni politekhnicheskiy institut imeni S. M. Kirova (Tomsk - Red Banner Order - Polytechnic Institute imeni S. M. Kirov) ✓

SUBMITTED: March 2, 1959

Card 4/4

ZAYTSEV, A.I.; KUTYAVIN, I.D., red.

[Design of electric substations for industrial enterprises; manual]
Proektirovanie elektricheskikh podstantsii promyshlennyykh pred-
priatii; uchebnoe posobie. Tomsk, Izd-vo Tomskogo univ., 1960.
98 p. (MIRA 14:10)
(Electric substations)